

# Work Order ID 113019

February-13-14 3:07:04 PM

**\*113019\***

Page 1

Item ID: D3065-3 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Step Spacer  
 Start Date: 10/02/2014 Start Qty: 40.00 **\*40\*** Cust Item ID:  
 Required Date: 10/02/2014 Req'd Qty: 40.00 **\*40\*** Customer:  
 Reference:

Approvals: Process Plan: *[Signature]* Date: 14-02-13 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3065	Rev B								

100  
**\*100\*** FLOW WATER JET  
 Waterjet Memo 0.00  
 FLOW CNC Waterjet 1-Cut as per Dwg  
 Rev: \_\_\_\_\_  
 Prog Rev: \_\_\_\_\_

ISSUE PO P023011  
 POSSIBLE SUPPLIER: LOEBSACK WATERJET

102  
**\*102\*** Small Fab Memo 0.00  
 Small Fab DEBURR A/R

*[Signature]* 2/18/14

*[Signature]* (40)

QC 6

→

DAS  
 27  
 9-89  
 M/4/16

40  
 con

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Design <input type="checkbox"/>									
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Handling/Pre <input type="checkbox"/>									
Material <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Offset/Setup <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Transport <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other  _____ _____ _____
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DQA: \_\_\_\_\_ Date: \_\_\_\_\_



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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
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DQA: \_\_\_\_\_ Date: \_\_\_\_\_



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Material <input type="checkbox"/>									
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Offset/Setup <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Transport <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

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# Work Order ID 113019

February-13-14 3:07:04 PM

\*113019\*

Page 4

Item ID: D3065-3 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Step Spacer  
 Start Date: 10/02/2014 Start Qty: 40.00 \*40\* Cust Item ID:  
 Required Date: 10/02/2014 Req'd Qty: 40.00 \*40\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Identify as per dwg & Stock Location: <u>GA</u>	0.00							
*180*						40x			14/04/25
Packaging	Memo	0.00							
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
*190*									14-4-25
QC	Memo	0.00							
Quality Control									

DAS  
36  
9-8

14-4-25

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other  _____ _____ _____
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# Picklist Print

February-13-14 3:07:10 PM

Page 1

Work Order ID: 113019

**\*113019\***

Parent Item: D3065-3

**\*D3065-3\***

Parent Item Name: Step Spacer

Start Date: 10/02/2014

Required Date: 10/02/2014

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP: C02.11.01Incorporated D3066-1 IPPKJ/RF  
IPP Rev:D Now on Water Jet 06-04-11 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3065-3P		Purchased		No			Each	0.0000		40			
<b>*D3065-3P*</b>									<b>**</b>				
Step Spacer													

*P. 4/4/14 (40)*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

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<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 113019
<b>Description:</b> Step Spacer		<b>Part Number:</b> D3065-3
<b>Inspection Dwg:</b> D3065	<b>Rev:</b> B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.260	+/-0.010	1.26	✓			
3.260	+/-0.010	3.25	✓			
5.260	+/-0.010	5.25	✓			
6.520	+/-0.010	6.51	✓			
2.093	+/-0.010	2.093	✓			
3.936	+/-0.010	3.92	✓			
4.186	+/-0.010	4.17	✓			
Ø0.129	+0.005/-0.000	0.133	✓			
Ø1.250	+0.005/-0.000	1.250	✓			
Pitch 1.204	+/-0.005	1.204	✓			
0.040	+/-0.010	0.040	✓			

<b>Measured by:</b> mm	<b>Audited by:</b> DAS	<b>Preliminary Approval:</b>
<b>Date:</b> 14/01/15	<b>Date:</b> 14/01/16	<b>Date:</b>

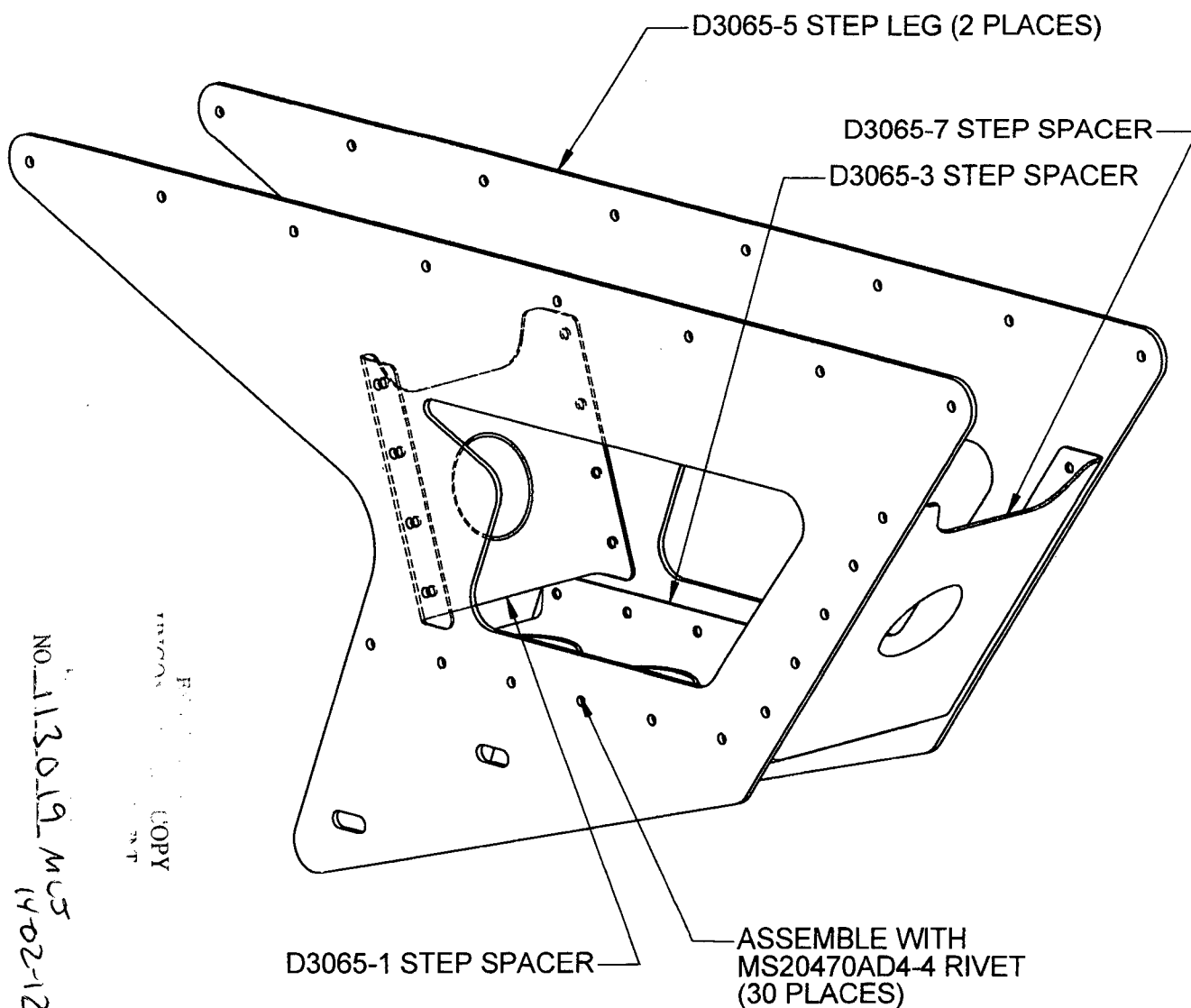
Rev	Date	Change	Revised by	Approved
A	04.02.25	New Issue P/O D3065-041	KJ/RF	
B	04.08.12	Removed dimension 1.204	KJ/JLM	
C	06.06.23	Dwg Rev. changed	KJ/JLM	
D	07.09.06	0.040 dimension added	KJ/JLM	
E	12.10.10	Ø0.129 was Ø0.128	KJ	

**DART**

DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3065</b>	REV. B SHEET 1 OF 5
DATE <b>06.05.23</b>		TITLE <b>STEP LEG ASSEMBLY</b>	SCALE 1:2
A	02.09.11	NEW ISSUE	
B	06.05.23	ADD 6061-T6 MATERIAL, ADD SLOTS TO D3065-5	

**RELEASED**

*06.06.20* *[Signature]*



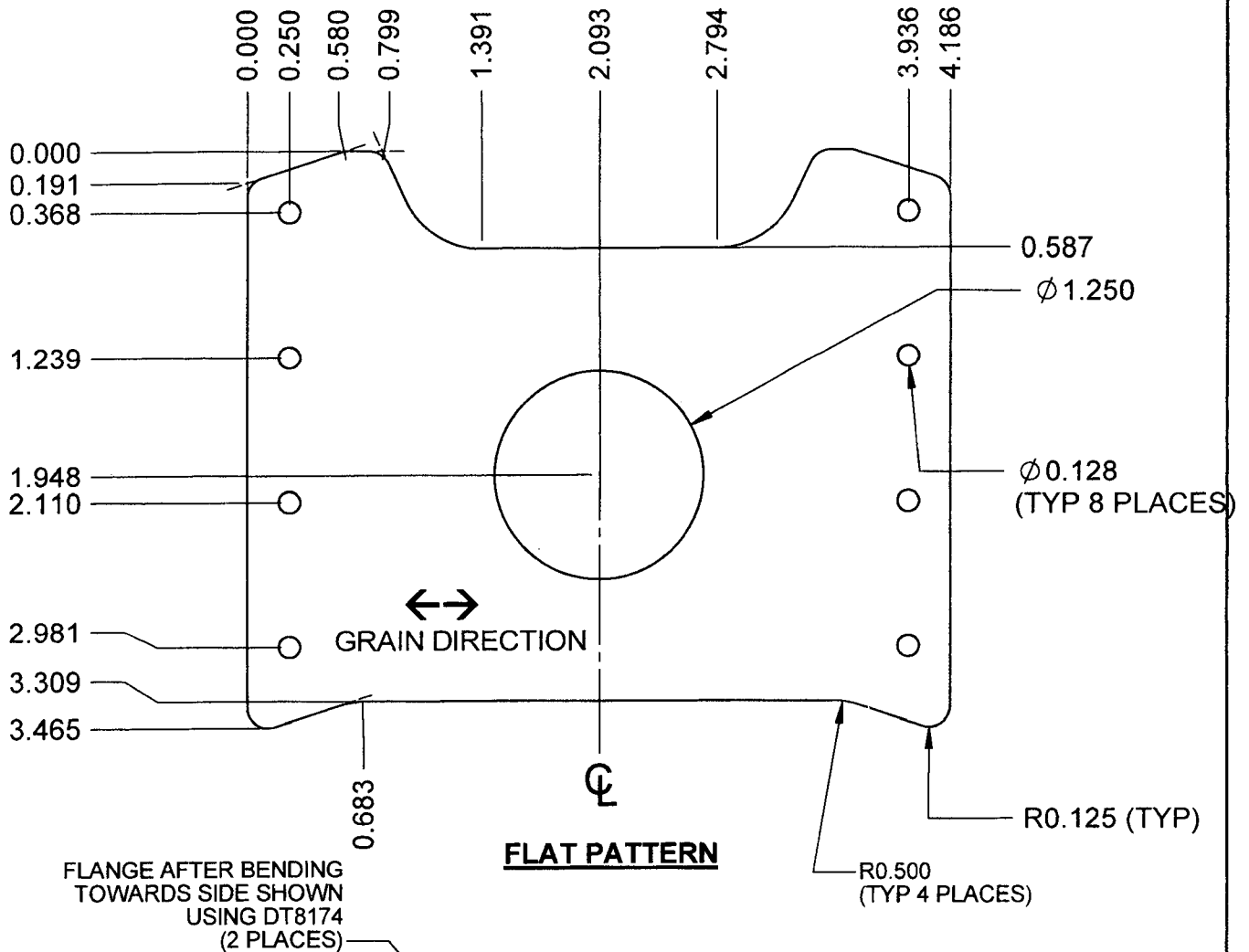
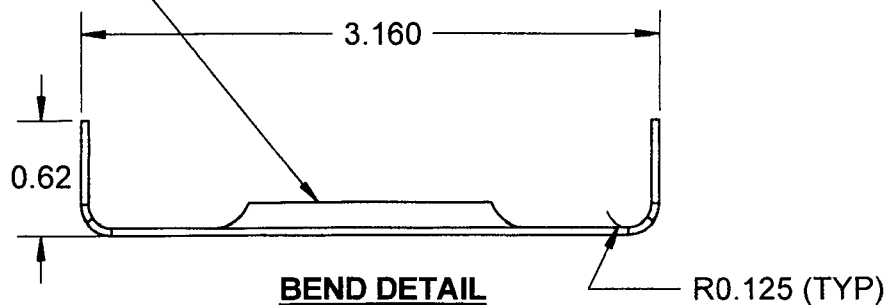
**D3065-041 STEP LEG ASSEMBLY**

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**DART**

DESIGN <i>CP</i>	DRAWN BY <i>C.B.</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3065</b>	REV. B SHEET 2 OF 5
DATE <b>06.05.23</b>	TITLE <b>STEP LEG ASSEMBLY</b>		SCALE 1:1

**RELEASED***de de re***D3065-1 STEP SPACER**

- 1) MATERIAL: 2024-T3 (QQ-A-250/4) 0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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06 de 20 - ~~11~~



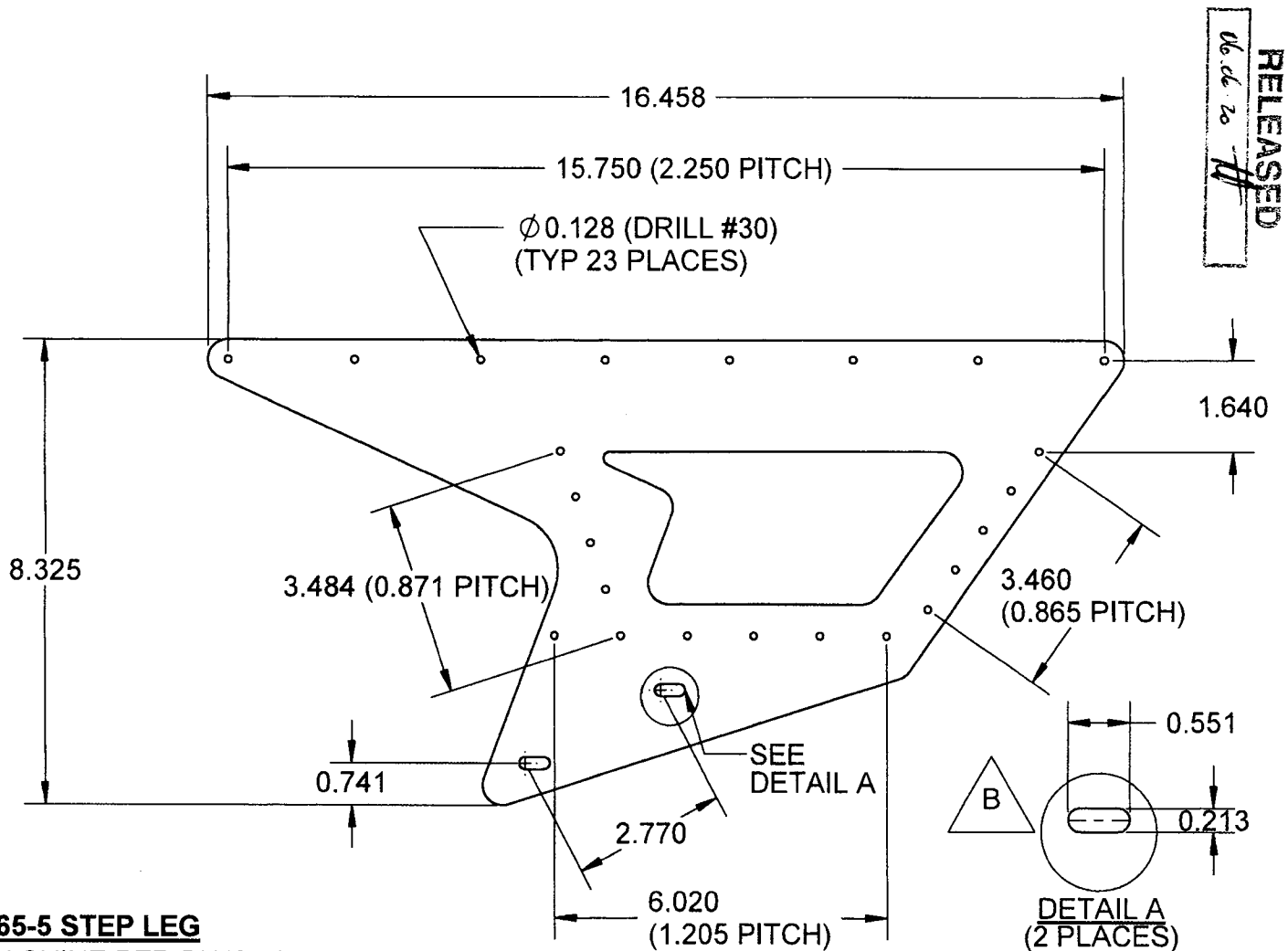
- 1) MATERIAL: 2024-T3 (QQ-A-250/4)  
0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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**DART**

DESIGN	DRAWN BY	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED SH	APPROVED CB	DRAWING NO. D3065	REV. B
DATE 06.05.23	TITLE STEP LEG ASSEMBLY	SHEET 4 OF 5	
		SCALE 1:3	



**D3065-5 STEP LEG**

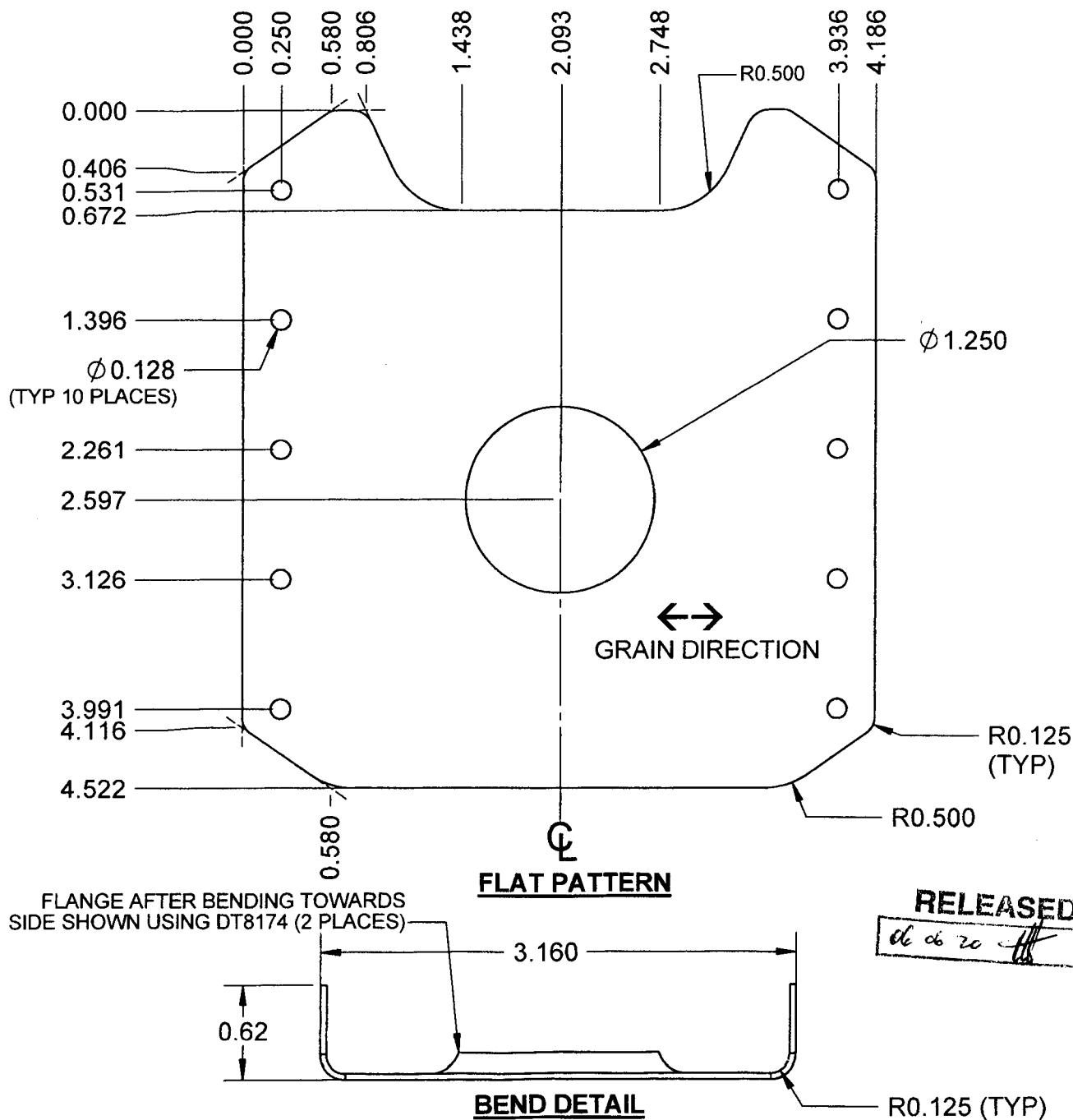
- 1) MACHINE PER DWG FILE "D3065-5.SLDPRJT"
- 2) MATERIAL: 6061-T6 (PER QQ-A-250/11 OR AMS 4025 OR AMS 4027) 0.080" THICK  
(REF DART SPEC M6061T6S.080)  
OR  
5052-H32 (PER QQ-A-250/8 OR AMS 4016) 0.080 THICK (REF DART SPEC. M5052H32S.080)
- 3) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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**DART**

DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3065</b>	REV. B SHEET 5 OF 5
DATE <b>06.05.23</b>		TITLE <b>STEP LEG ASSEMBLY</b>	SCALE 1:1

**D3065-7 STEP SPACER**

- 1) MATERIAL: 2024-T3 (PER QQ-A-250/4) 0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO23011**

Purchase Order Date 2/14/2014

PO Print Date 2/14/2014

Page Number 7 of 9

**Order From :**

VC-LWC001

LOEBSACK WATERJET CANADA LTD.  
55 NORTHFIELD DR. E.  
P.O.BOX 339

WATERLOO, ONTARIO N2K 3T6

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

FedEx PI collect

Ship Acct:

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

19	D3065-3P	Step Spacer	3/28/2014	60.00	\$7.00	\$420.00
			Yes	Each		
			3/28/2014			

Manufacture as per drawing D3065 rev.b  
B112205

D3065-3P

3/28/2014

40.00

\$7.00

\$280.00

Each

3/28/2014

Manufacture as per drawing D3065 rev.b  
B113019

**Line Total:** \$700.00

20	D3065-5P	Step Leg	3/28/2014	30.00	\$11.40	\$342.00
			Yes	Each		
			3/28/2014			

Manufacture as per drawing D3065 rev.b  
B110750

D3065-5P

3/28/2014

80.00

\$11.40

\$912.00

Each

3/28/2014

Manufacture as per drawing D3065 rev.b  
B112407

**Line Total:** \$1,254.00

**PO Instructions:** PROCUREMENT QUALITY CLAUSES

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A042 DART NOTIFICATION BY SUPPLIER

**Note:**

## Certificate of Compliance

Sold To: DART Aerospace

Purchase Order Nu ID PO23011

Item	Quantity	Part Number	Revision	Description	Mtl. / Thk.	HT Number
18(4)	60	D3065-1	b	STEP SPACER	2024-T3 / 0.040"	663172A5
19(5)	100	D3065-3	b	STEP SPACER	2024-T3 / 0.040"	663172A5
21(7)	60	D3065-7	b	STEP SPACER	2024-T3 / 0.040"	663172A5
20(6)	110	D3065-5	b	STEP LEG	5052-H32 / 0.080"	3C5291
9(8)	20	D4093-1	d	BRACKET	6061-T6 / 0.750"	37797032
10(9)	10	D4093-3	d	BRACKET	6061-T6 / 0.750"	37797032
8(2)	20	D3319-1	c	WEARPLATE	CRS 18GA / 0.048"	3683T3-51
7(1)	20	D3319-3	c	WEARPLATE	CRS 18GA / 0.048"	3683T3-51
22(3)	120	D3537-1F	c	WEARPAD	304 SS / 0.063"	A1303988
11(10)	40	D3405-1F	b	GHW BRACKET	304 SS / 0.120"	350420

This is to certify that the whole of the supplies detailed hereon has been inspected, tested, packed, and unless otherwise stated, conform in all respects with the requirements of the contract or order.

Name: Derek Loebsack

Title: President

Sign:



Dated:

07-14-04

# THYSSENKRUPP MATERIALS NA

J.M. WOODTURNING LTD

ALUMINUM PLATE 6061-T651  
750" THICK X 48.5000" X 96.5000"  
PART NO.

PO/Rel FRED

We certify that this is a true copy of the report  
furnished by the producer of the metal, or data  
resulting from tests made in approved labs.

Signed by: \_\_\_\_\_

## Certificate of Mill Test Results

BL PEC-851084-001

19Nov13

Pg 1/1

### TEST CERTIFICATE



Certificate No: 1209182682

Hulamin Ltd Reg. No. 1510032/MAG VAF Reg. No. 4061436/4  
HEAD OFFICE: Moore Building Rd, Pietermaritzburg 3201, P.O. Box 74, Pietermaritzburg 3200, South Africa  
Telephone: +27 33 2556971 Telex: +27 33 394 6335

BUYER: TA CHEN INTERNATIONAL INC 5855 ODISPO AVE LONG BEACH CA 90805	Hulamin Lot No:	HL018523	Product:	PLATE HEAT TREATED FINISHED, 6061-T651 0.75" x 48.5" x 96.5"
	Lot No:	17/09/032C8	Dimension:	0.75" X 48.5" X 96.5"
	P/Lot No:	27161413	Alloy - Temper:	6061 - T651
	Release No:	RE090556	Certificate No:	1209182682
	Cust Order No:	NO3100-S	Cust Ref/Part No:	
	HULAMIN Order No:	181742E	Combined P/Lot No:	R 2184E
	Item Part:	1/1		

Cage No: 0FV871

### MECHANICAL TEST RESULTS

Lot No.	Cast No.	Metal Id	Alloy	Spec No	Mechanical Properties							
					Yield Strength (Ksi)	UTS (Ksi)	Elongation A50 (%)	Earing (%)	Tensile	Gauge Length (Inches)	Bend Test	Actual Gauge (Inches)
Spec				Min	38.1	42.0	9					0.75
				Max								0.781
17/09/032C8	VAST	37797032	6061	1	41.0	46.7	15		07/09/12	2		0.765
				2	41.0	46.7	15		07/09/12	2		0.765

### CHEMICAL COMPOSITION

	Cast No.	Alloy	Si (%)	Fe (%)	Cu (%)	Mn (%)	Mg (%)	Cr (%)	Zn (%)	Ti (%)	Each (%)	Total (%)	Al (%)
Min			0.40		0.15		0.8	0.04					
Max			0.8	0.7	0.40	0.15	1.2	0.36	0.25	0.15	0.05	0.15	
	VAST	6061	0.69	0.44	0.28	0.11	1.01	0.21	0.01	0.012			97.20

CONFORMS TO: ASTM B209-10 AMS 4077N AMS 404-10011, DD 1997

For purposes of determining conformance with these specifications, an observed value or a calculated value shall be rounded "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding method of ASTM Practice E29, for Using Significant Digits in Test Data to Determine Conformance with Specifications.

WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT. THE INSPECTION RESULTS INDICATED IN THE CHEMICAL COMPOSITION HAVE BEEN OBTAINED FROM CAST ANALYSIS.

Dr. A. P. (HEAD OF CHEMICAL TESTING)

Veri D.1

V. M. (HEAD OF PHYSICAL TESTING)

MILL TEST REPORT  
Customer: CORCON PO#PEC-253613 SO#PR6420  
Item: 75048966061T651 Bundle: PFW871 Heat: 37797032

This MTR contains 1 page (Page 1)  
MTR#: HLCR181784\_PFW871

# KAISER ALUMINUM FABRICATED PRODUCTS

*Best in Class*

## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum  
Trentwood Works  
Spokane, WA 99215-5108  
(800) 367-2586

CUSTOMER PO NUMBER: 5400197766-20		WORK PACKAGE:		CUSTOMER PART NUMBER: ALFLR01581		PRODUCT DESCRIPTION: HT Flat Sheet	
KAISER ORDER NUMBER: 1160889	LINE ITEM: 2	SHIP DATE: 11/14/2013		ALLOY: 2024		CLAD: BARE	TEMPER: T3
WEIGHT SHIPPED: 3293 LB	QUANTITY: 117 PCS EST.	B/L NUMBER: 2044959		GAUGE: 0.0400 IN		WIDTH: 48.000 IN	LENGTH: 144.000 IN
SHIP TO:  COPPER & BRASS SALES 404 CENTURA COURT SPARTANBURG, SC 29303 US				SOLD TO:  COPPER & BRASS SALES ATTN: ACCOUNTS PAYABLE P.O. Box 5116 SOUTHFIELD, MI 48086 US			

MHU 1730227: LOT 663172A5: 117 pieces

### Certified Specifications

AMS 4037/RevP AMS-QQ-A-250/4/RevA ASTM B 209/Rev10 CMMP 019/RevD CMMP 025/RevU

Test Code: 1504

### Test Results:

LOT: 663172A5 CAST: 641 DROP: 27 INGOT: 3

Melted in USA  
(ASTM E8/B557)  
(EN 2002-1)

Tensile:	Temper	Dir/#Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T3	LT / 02 (Min:Max)	68.1 : 68.2 (470 : 470)	46.0 : 46.1 (317 : 318)	17.1 : 17.8

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.23	4.7	0.57	1.3	0.01	0.16	0.02	0.01	0.00	TOT 0.03

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
2024	MIN	0.00	0.00	3.8	0.30	1.2	0.00	0.00	0.00	0.00	MAX 0.05
	MAX	0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	TOT 0.15

Aluminum Remainder

Plant Serial: 4315340

Kaiser Order Number: 1160889

Line Item: 2

Page 1 of 2

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673

CstAr

CstOr 256039

Wgt.: 55.296 LB

Date 02/20/2014

*John L. Zumbach*

**KAISER**  
**ALUMINUM**  
**FABRICATED PRODUCTS**

*Best in Class*

**CERTIFIED TEST REPORT**

<http://Online.KaiserAluminum.com>

Kaiser Aluminum  
Trentwood Works  
Spokane, WA 99215-5108  
(800) 367-2586

**CERTIFICATION**

Kaiser Aluminum Fabricated Products, LLC (Kaiser) hereby certifies that metal shipped under this order was melted in the United States of America or a qualifying country per DFARS 225.8/2-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 232.225 for domestic content. This material has been inspected, tested and found in conformance with the requirements of the applicable specifications as indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. All metal which is solution heat treated complies with AMS 2772. Any warranty is limited to that shown on Kaiser's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of Kaiser Aluminum Fabricated Products, LLC laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law. ISO-9001:2000 certified.

JAMES HEMENWAY, LABORATORIES SUPERVISOR

*James Hemenway*

Plant Serial: 4315340  
Kaiser Order Number: 1160889  
Line Item: 2

Page 2 of 2

From: ThyssenKrupp Materials NA  
Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673  
CstAr CstOr 256039  
Wgt.: 55.296 LB Date 02/20/2014

*John L. Zumbach*

**COPPER AND BRASS SALES****MATERIAL TYPE****ALUMINIUM ALLOYS****PRODUCT DESIGNATION****2014 2024 2224 2324 7050 7075 7150 7175 7475 ALUMEC 89 ALUMEC 99 QC-7****"WARNING"**

SMALL CHIPS, FINE TURNINGS AND DUST MAY IGNITE READILY. EXPLOSION POTENTIAL MAY BE PRESENT WHEN DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR, CHIPS, FINES, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE. KEEP AWAY FROM IGNITION SOURCE. USE EXPLOSION-PROOF VENTILATION. KEEP MATERIAL DRY.

THIS PRODUCT CONTAINS BERYLLIUM AND COPPER. INHALING BERYLLIUM DUST OR FUMES MAY CAUSE CHRONIC BERYLLIUM DISEASE (CBD), A SERIOUS CHRONIC LUNG DISEASE IN SOME INDIVIDUALS. BERYLLIUM IS A CANCER HAZARD; OVER TIME CBD AND CANCER CAN BE FATAL. TARGET ORGAN IS PRIMARILY THE LUNG. INHALING LARGE AMOUNTS OF COPPER, MAGNESIUM OXIDE, MANGANESE OXIDE, AND ZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS. CHRONIC OVEREXPOSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN; AND SKIN, TEETH, AND HAIR DISCOLORATION. CHRONIC OVEREXPOSURE TO MANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE, SCARRING OF THE LUNGS AND REPRODUCTIVE HARM IN MALES. TARGET ORGAN IS PRIMARILY THE LUNG, BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER. CHRONIC OVEREXPOSURE TO IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS. CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS. OVEREXPOSURE TO AMORPHOUS SILICA CAN CAUSE DRYING OF THE MUCOUS MEMBRANES OF THE EYES, NOSE, AND THROAT.

THIS PRODUCT ALSO CONTAINS NICKEL AND CHROMIUM COMPOUNDS. INHALATION OF NICKEL DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT AND CAUSE NASAL AND/OR LUNG CANCER. NICKEL HAS BEEN IDENTIFIED AS A POTENTIAL HUMAN CARCINOGEN. EXPOSURE TO CHROMIUM DUST OR FUMES MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE. UNDER HIGH TEMPERATURES, HEXAVALENT CHROMIUM MAY BE PRODUCED. IF IN THE INSOLUBLE FORM, IT IS A CONFIRMED HUMAN CARCINOGEN. (CALIFORNIA PROPOSITION 65).

IF COATED WITH OIL, MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT. WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS. READ THE ALUMINIUM/ALUMINIUM ALLOYS MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

\* If processing or recycling produces particulate, use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding, grinding, abrasive sawing, sanding and polishing. Any activity which abrades the surface of this material can generate airborne particulate. Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.

\* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.

\* Aluminum, in solid form and as contained in finished products presents no special health risk.

\* Sold for manufacturing purposes only. This product can be recycled; contact your sales representative.

For additional information, call or write to Copper and Brass Sales, 22355 West Eleven Mile Road, Southfield, MI 48033, telephone 248-233-5600, or visit our web site @ [www.copperandbrass.com](http://www.copperandbrass.com).

# ADITYA BIRLA HINDALCO INDUSTRIES LIMITED



Deewan Deep Building, 1 Profulla Chandra Sen Sarani,  
Kolkata-700071, India. Tel: +91-33-22402210  
Fax: +91-33-21984898  
Regd. Office: Century Bhawan, Dr. Annie Besant Road, Worli,  
Mumbai - 400 026, INDIA.

Page 1 of 2

Date: 20-SEP-13

NAME OF THE PARTY: RYERSON CANADA INC., 161 THE WEST HALL, TORONTO, ONTARIO M5C4V6, CANADA.  
PRODUCT: ALUMINIUM SHEET  
QTY (MT): 20.923  
LC/NO. & DATE: 64487167 Dt., 20.08.2013  
INVOICE NO: HNS/R/2016/72

**COPY**

THE TEST RESULTS OF THE SAMPLES DRAWN AND TESTED IN OUR LABORATORY ARE AS FOLLOWS :

## QUALITY CERTIFICATE

SRNO	Package No	Alloy Temp	Net Wt (MT)	Size (mm)	Coil No.	Cast No./Heat No.
1	717380184	AA5052, H32	1.487	3048 x 1219 x 2.29	H13HASH0805002	717380184
2	2D019280184	AA5052, H32	1.808	3048 x 1524 x 2.54	H13HASH0819010	2D019280184
3	3C53084	AA5052, H32	1.487	2438 x 1219 x 2.03	H13HASH0805017	3C53084
4	2D019280185	AA5052, H32	1.503	3048 x 1524 x 2.54	H13HASH0819016	2D019280185
5	3C53087	AA5052, H32	1.487	2438 x 1219 x 2.03	H13HASH0805017	3C53087
6	717380185	AA5052, H32	1.511	3048 x 1219 x 2.29	H13HASH0805002	717380185
7	717290384	AA5052, H32	1.488	3048 x 1219 x 2.29	H13HASH0805001	717290384
8	717290382	AA5052, H32	1.485	3048 x 1219 x 2.29	H13HASH0805001	717290382
9	2D0193A0182	AA5052, H32	1.47	3048 x 1524 x 2.54	H13HASH0819011	2D0193A0182
10	717380182	AA5052, H32	1.487	3048 x 1219 x 2.29	H13HASH0805002	717380182

## CHEMICAL COMPOSITION (%)

Cast No	Si	Pb	Fe	Mn	Cu	Sb	Cr	Ti	N	Se	Al	Y	Sn	Bi	Others	Rem. Alum.
1 717380184	.011	.216	.006	2.345	.001	0	0	.006	0	0	0	.001	0	0	0	97.121
2 2D019280184	.113	.285	.061	2.413	.01	0	0	.02	0	0	0	.005	0	0	0	96.887
3 3C53084	.2	.43	.137	2.6	.009	0	0	.013	0	0	0	0	0	0	0	96.397
4 2D019280185	.133	.285	.061	2.413	.01	0	0	.02	0	0	0	.005	0	0	0	96.487
5 3C53087	.2	.43	.137	2.6	.009	0	0	.013	0	0	0	0	0	0	0	96.297
6 717380185	.091	.216	.006	2.345	.001	0	0	.006	0	0	0	.001	0	0	0	97.121
7 717290384	.105	.262	.003	2.328	.001	0	0	.006	0	0	0	.001	0	0	0	96.873
8 717290382	.105	.262	.003	2.328	.001	0	0	.006	0	0	0	.001	0	0	0	96.873
9 2D0193A0182	.124	.161	.054	2.367	.016	0	0	.02	0	0	0	.005	0	0	0	96.83
10 717380182	.091	.216	.006	2.345	.001	0	0	.006	0	0	0	.001	0	0	0	97.122

## MECHANICAL PROPERTIES

## OTHER TESTS

Cast No	UTS (Kg/mm2)	TS (Kg/mm2)	% Elongation	Band Test
1 717380184	24.3	0	11.2	0 T Satisfactory
2 2D019280184	23.2	0	10.6	0 T Satisfactory
3 3C53084	22.9	0	9.5	0 T Satisfactory
4 2D019280185	23.2	0	10.6	0 T Satisfactory
5 3C53087	22.9	0	9.5	0 T Satisfactory
6 717380185	24.5	0	11.2	0 T Satisfactory
7 717290384	23.4	0	10.6	0 T Satisfactory
8 717290382	23.4	0	10.6	0 T Satisfactory
9 2D0193A0182	22.6	0	11.8	0 T Satisfactory
10 717380182	24.5	0	11.2	0 T Satisfactory

Remarks:- (1) RYERSON PO NO.735670 (2) ISSUED BY THE MANUFACTURER.



# ADITYA BIRLA HINDALCO INDUSTRIES LIMITED



Jeevan Deep Building, 1 Prafulla Chandra Sen Sarani,  
Kolkata-700071, India. Tel: +91-33-22402210  
Fax: +91-33-22894808  
Regd. Office: Century Bhevan, Dr. Annie Besant Road, Worli,  
Mumbai - 400 026, INDIA.

Page 2 of 2

Date: 20-SEP-13

NAME OF THE PARTY : RYERSON CANADA INC., 161 THE WEST HALL, TORONTO, ONTARIO M5C4V8, CANADA.,  
PRODUCT : ALUMINIUM SHEET.  
QTY (MT) : 20.921  
LC/PO. & DATE : 64687167 Dt. 20.08.2013  
INVOICE NO : HRB/R/2014/72

**COPY**

## QUALITY CERTIFICATE

Roll No.	Package No.	Alloy Temper	Net Mt (MT)	Size (mm)	Coil Nos.	Cast No./Heat No.
11	3CS3086	AA3052, H32	1.486	2438 x 1219 x 2.03	H13HASH0805017	3CS3086
12	3CS2981	AA3052, H32	1.517	2438 x 1219 x 2.03	H13HASH0805018	3CS2981
13	2D019280182	AA3052, H32	1.502	3048 x 1524 x 2.54	H13HASH0819010	2D019280182
14	2D0193A0185	AA3052, H32	1.505	3048 x 1524 x 2.54	H13HASH0819011	2D0193A0185
Total-			20.921			

## CHEMICAL COMPOSITION (%)

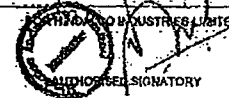
Cast No.	Si	Fe	Mn	P	Cu	Sn	Cr	Zn	Al	Co	Ni	Ca	Other	Rem. Alum.
11	3CS3086	.2	.48	.137	2.6	.005	0	0	.013	0	0	0	0	96.397
12	3CS2981	.2	.49	.137	2.6	.005	0	0	.013	0	0	0	0	96.397
13	2D019280182	.133	.285	.041	2.413	.01	0	0	.02	0	0	0	0	96.897
14	2D0193A0185	.134	.301	.066	2.377	.015	0	0	.02	0	0	0	0	96.88

## MECHANICAL PROPERTIES

Cast No	UTS(Kg/cm2)	PS (Kg/cm2)	% Elongation	Send Test	
11	3CS3086	22.9	0	9.5	0 T Satisfactory
12	3CS2981	22.4	0	10	0 T Satisfactory
13	2D019280182	23.2	0	10.6	0 T Satisfactory
14	2D0193A0185	22.6	0	11.8	0 T Satisfactory

## OTHER TESTS

Remarks:- (1) RYERSON PO NO.736670 (2) ISSUED BY THE MANUFACTURER.







ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

SO No., Item & Date.: 8017177 000020 2014/01/09	Shipment No. & Date.: 1000083594 2014/01/10	TC No., Date & Time : ESA-128192 2014/01/12 - 08:41:14
Sold to Customer Name and Address : RYERSON INC FINANCIAL DRIVE 7525 BRAMPTON, Ontario, Canada L6Y 5P4	Ship to Customer Name and Address: RYERSON INC FINANCIAL DRIVE 7525 BRAMPTON, Ontario, Canada L6Y 5P4	Customer PO NO./Item: 744335 / 2 BOL NO.: 1000083594 Cust. Part No.: 7804-2405 Carrier : NATIONAL TRANSPORTATION - 1158A
Customer Specification : CR STEEL SHEET Carbon CQ / CS ASTM A1008 CS TY B (2012) Mark Number 7804-2405 Batch Annealed Top Semi Critical Surface Improved Shape Pickled Light Oiled Light Matte Finish Edge Sealant Required Std Thickness Tol		

Supplementary Instructions : Test Cert 1:905-792-1617

Insp T/R : Chemical Analysis

Cust Use : AUTO IMPROVED SHAPE & SURF

ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES. THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705)946-4085 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

MEETS EN 10204 3.1  
ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM

ALL HEATS FULLY KILLED.  
HEATS INDICATED WITH (\*) FINE GRAINED.  
HEATS INDICATED WITH (+) MADE IN CANADA WITH DOMESTIC AND NORTH AMERICAN MATERIALS.

Dimensions (T x W x L)	Batch No.	Heat No.-MS	Quantity	Pcs
0.0440 " x 48.000 "	SAM9918B	3683T3-51	21,740 LB	1

0.0440 * x 48.000		CHEMICAL PROPERTIES													
Heat No. (wt%)	C	Mn	P	S	Si	Cr	Ni	Cu	Mo	Al	Nb	V	B	Ti	N
3683T3 <sup>+</sup>	0.04	0.26	0.003	0.007	0.020	0.01	0.01	0.01	0.00	0.035	0.000	0.000	0.0000	0.001	0.0033

K. UGHADPAGA  
MANAGER METALLURGICAL SERVICES

**\*\*WARNING\*\*** THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATION) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

Date: 2014/01/12 Time: 08:41:14 Page no: 1 of 1

PO/Rel

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

Attn: RICK

PART NO.

NO. 8465 P. 2

MATERIAL

FEB. 28. 2014 3:46PM

### 产品质量证明书 MATERIAL TEST CERTIFICATE

无锡宝昌金属制品有限公司  
Wuxi Baichang Metal Products Co., Ltd

PAGE 2 OF 2

单号: EX1309301GS  
Order No.  
货方: GLOBAL STAINLESS STEEL INC.  
用方: GLOBAL STAINLESS STEEL INC.  
ONSIGNEE

品名: STAINLESS STEEL SHEETS,  
Commodity SLIT EDGE

标准: ASTM A240/A240M  
Specification:

牌号: 304  
Type  
表面加工: 2B  
Surface Finish

编号: EX1309301  
Invoice No.  
发行日期: 2013-10-26  
Date

序号 No.	货物编号 Product No.	产品尺寸 Product Size			数量 Number	重量 Weight Kg	拉伸试验 Tensile Test			表面 硬度 Hardness HRB	炉批号 HEAT NO.	化学成分 Chemical Composition (%)							
		厚度 Thickness MM	宽度 Width MM	长度 Length MM			屈服强度 0.2% YS N/mm <sup>2</sup>	抗拉强度 TS N/mm <sup>2</sup>	延伸率 EL %			C	Si	Mn	P	S	Ni	Cr	N
12	13102612	0.6096	1219.2	2438.4	118	1612	250	690	57	83	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
13	13102613	0.6096	1219.2	2438.4	118	1616	250	690	57	83	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
14	13102614	0.7620	1219.2	2438.4	88	1644	271	665	58	89.5	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
15	13102615	0.7620	1219.2	2438.4	87	1626	271	665	58	89.5	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
16	13102616	1.2192	1219.2	2438.4	54	1494	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
17	13102617	1.2192	1219.2	2438.4	50	1378	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
18	13102618	1.2192	1219.2	3048	42	1460	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
19	13102619	1.2192	1219.2	3048	45	1574	267	695	55	87	A1303988	0.0400	0.430	1.1300	0.0380	0.0010	8.0300	18.230	0.0300
20	13102620	1.5240	1219.2	2438.4	43	1485	271	680	52	87	A1303988	0.0400	0.430	1.1300	0.0380	0.0010	8.0300	18.230	0.0300
21	13102621	1.5240	1219.2	2438.4	43	1487	271	680	52	84	A2304006	0.0300	0.440	1.1500	0.0380	0.0010	8.1000	18.250	0.0400
22	13102622	1.9050	1219.2	2438.4	40	1725	268	650	53	84	A2304006	0.0300	0.440	1.1500	0.0380	0.0010	8.1000	18.250	0.0400
23	13102623	1.9050	1219.2	2438.4	41	1735	268	650	53	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
24	13102624	3.0480	1219.2	3048	17	1482	280	675	54	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
25	13102625	3.0480	1219.2	3048	19	1656	280	675	54	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400

备注 (Remarks):

1. 尺寸和表面: 合格  
Size and Surface: Guaranteed

兹证明所列产品均符合订单和标准的制造要求

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN  
HAS BEEN MADE IN ACCORDANCE WITH THE ORDER AND  
SPECIFICATION

\*此报告仅可完全复制

\*The report can only be copied completely

技术本部  
TECHNICAL DEPT.

无锡宝昌金属制品有限公司  
WUXI BAICHANG METAL PRODUCTS CO., LTD.

**THYSSENKRUPP MATERIALS NA**

## Certificate of Mill Test Results

BL PEC-000000-000

Pg 1/1

PO/Re:

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

Ann: RICK

PART NO.

[illegible]